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THE HUMAN APOCRINE SWEAT GLAND : TWO SECRETIONS ?*

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IN any study of the physiology or pharmacology of a glandular organ, one must be able to identify its product or products to correlate stimuli and response. The study of the human apocrine sweat gland poses a unique problem in this respect because of anatomical considerations. Commonly the duct of the apocrine sweat gland empties into the distal portion of the hair follicle, and it would seem that any secretion other than sebum which appeared at the hair follicle could be regarded as apocrine sweat. In our studies on the apocrine sweat gland it soon became apparent that should this view be held, the gland definitely produced two separate secretions (Shelley and Hurley, 1953). These secretions were totally different in appearance and resulted from totally different stimuli. One secretion, a viscid, turbid, white liquid, appeared following epinephrine injections, whereas a clear, watery fluid was noted in response to acetylcholine.

Simple inspection of the hair follicle orifice, even with a stereoscopic microscope ($30\times$), does not permit identification of the points of origin of these secretions. It has been generally agreed that the viscid turbid-white, adrenergic fluid is a product of the apocrine gland, but there has been some dispute concerning the source of the clear, watery cholinergic secretion. Several writers (Rothman, 1953 ; Herrmann, 1953) have maintained that this latter fluid is also produced by the apocrine sweat gland. We have examined this problem in detail, and have concluded that the apocrine sweat gland pro-

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duces only *one* secretion. The clear, aqueous "follicular" fluid is in reality true eccrine sweat, which arises from the adjacent eccrine sweat duct pores and collects at the follicular orifices, giving a false impression of origin.

In this paper it is proposed to review the problem and to present our evidence.

OBSERVATIONS.

A whitish, turbid or milky liquid appears at many of the hair follicles of the axilla in man in response to the following stimuli :

- (a) Emotional : fear, anger, excitement.
- (b) Pain.
- (c) Mechanical : stroking.
- (d) Pharmacological : epinephrine, pitocin.

Furthermore, this turbid fluid can be made to appear by simple manual compression of the axillary skin (Hurley and Shelley, 1953).

At the same hair follicle orifice a colourless aqueous fluid may appear in response to the following stimuli :

- (a) Thermal : hot environment.
- (b) Pharmacological : acetylcholine, pilocarpine.

Atropinization of the area prevents the appearance of this colourless fluid.

Unfortunately, a consideration of these facts alone does not permit the identification of the specific glandular origin of these secretions. Additional knowledge is needed to specify the source. The following evidence was obtained.

Anatomical.—The eccrine sweat duct pore is often so situated as to allow the eccrine sweat to flow down into the hair follicle orifices. This fact can be readily appreciated by microscopy of the axillary skin surface. Under twenty power magnification the skin of the axilla presents a rugose surface. Occasionally eccrine pores can be discerned as small pits filled with keratin. Many are immediately adjacent to the orifices of hair follicles, and some open on to the sides of skin folds so that gravity directs their secretion into the grooves and thereby to the hair follicle pits. Much of the eccrine sweat never appears in droplet form until it collects in these pits.

Special anatomical dissections (Figs. 1 and 2) have further demonstrated this surface relationship between the hair follicle openings and the eccrine sweat pores.

Application of a water repellent (silicone) to the axilla promotes eccrine sweat *droplet* formation, and reduces free spreading of sweat in film form. In subjects so treated with silicone it is not possible to see any primary sweat droplets developing within the orifices of the hair follicles in response to heat.

It is significant that on other hairy areas of the skin in which no apocrine glands can be found, such as the leg, thigh and bearded region of the face, the hair follicles may also appear to be the sites of origin for eccrine sweat. Here, it is apparent that physical factors are responsible for this finding.

From the gross anatomical standpoint, therefore, it can be shown that eccrine sweat may easily collect in the orifices of the hair follicles and that its primary point of origin may go unrecognized.

Histological and histochemical.—Histological examination of serial sections of



FIG. 1.



FIG. 2.

FIG. 1.—*Apo-pilo-sebaceous apparatus.* An axillary biopsy specimen was immersed in 3% ammonium hydroxide solution for three hours. The epidermis with attached appendages was then stripped from the corium. In the upper half of the photograph is the under surface of the detached epidermis. In the lower half are seen the free appendages. The common junction of two hair follicles and one apocrine sweat duct is seen in the centre. The apocrine gland tubules and the distal portions of the hair follicles have remained in the corium. The sebaceous glands are seen as small bud-like projections on the lower portions of the hair follicles. On each side of the central apo-pilo-sebaceous unit is an eccrine duct, the tubules of which have been retained in the corium. $\times 27$.

FIG. 2.—*Axillary poral pattern.* An axillary biopsy specimen of negro skin was immersed in 3% ammonium hydroxide solution for three hours. The stratum corneum was selectively removed by mechanical stripping. The figure shows the epidermal surface as seen after removal of keratinous covering. The pores are revealed by transillumination. The large oval light areas, with or without hairs, are hair follicle openings. The small round light areas are the eccrine gland pores. In some instances the apocrine pore can be seen emptying into the hair follicle orifice. Note the whorls of pigmentation which are to be distinguished from the pores. This surface topography demonstrates the proximity of eccrine pores and hair follicles. $\times 9$.

axillary skin revealed that eccrine sweat ducts occasionally open at the hair follicle "lip," and commonly at points extremely close to it. A study of the secretory cell of the apocrine sweat gland tubule reveals its uniformity of character. There is but a single type of secretory cell in the human apocrine gland. This histological fact speaks for a single secretory product.

From the histochemical standpoint, it is significant to note that the axillary apocrine sweat gland in man possesses no glycogen (Montagna *et al.*, 1953), in contrast with the well defined glycogen deposits which can be demonstrated in the secretory cells of the eccrine sweat gland (Shelley and Hurley, 1952). This reflects a basic difference in the mode and type of secretion of the two glands; the presence of glycogen is associated with the capacity to form large volumes of secretion, and its absence in the apocrine sweat gland points to a different type of secretion which is minimal in volume. It is our belief that, if the apocrine sweat gland were to produce two different secretions, at least some of the secretory cells would exhibit glycogen.

It should be recalled that the two "follicular" secretions in question appear in response to different stimuli, one adrenergic and the other cholinergic. If both secretions arise from the same gland, a dual innervation should be present. Recently this facet of the problem has been explored (Shelley *et al.*, 1953) utilizing a histochemical technique to reveal the presence or absence of cholinergic nerve fibers. Ordinary nerve stains showed that the apocrine sweat gland is supplied by nerves, but we have not been able to demonstrate that this innervation is cholinergic. In contrast, the eccrine sweat gland has numerous cholinergic nerve fibres. In light of these findings it is difficult to accept the view that cholinergic stimuli affect the human apocrine sweat gland.

Physiological—The physiological observations which we have made are also of interest. The colourless "follicular" sweat always appears in response to measures which invariably stimulate the eccrine sweat gland. The quantitative responses and the latent period correspond exactly with those of eccrine sweating. It seems unnecessary to postulate that the apocrine sweat gland duplicates this physiological pattern.

It is of considerable importance that mixing of the two secretions was not observed when the one was made to appear immediately after the other. If the hypothesis were correct that the two secretions were arising from the same gland, it would be expected that there would be some intra-glandular mixing. This has not been seen. The injection of epinephrine elicits a whitish secretory product. Immediately after this is removed, the injection of acetylcholine produces a clear colourless fluid which is in no way tinged or contaminated with the whitish product initially seen. This experiment may be reversed and again the whitish product which appears is not diluted by the initial colourless fluid. This absence of mixing is in keeping with the view that the two secretions have arisen from two separate glands.

It has long been known that the injection of methylene blue into the skin will result in a colouring of eccrine sweat. Conversely we have found that the injection of methylene blue is not followed by the appearance of coloured apocrine sweat (Shelley and Hurley, 1953). Certain studies were done using this differential dyeing technique to distinguish eccrine from apocrine sweat in the axilla. It was found that after the injection of methylene blue, the subsequent injection of acetylcholine led to the appearance of a blue follicular fluid, while stimulation with epinephrine produced a cloudy-white secretion. These findings are also in agreement with the view that the follicular fluid of eccrinoid appearance is in fact of eccrine gland origin.

Pharmacological.—From the pharmacological standpoint, again, the colourless follicular fluid arises as a result of stimuli which are specific for the production of eccrine sweat, *viz.*, acetylcholine and pilocarpine (Shelley and Hurley, 1953). Moreover, atropine will block this response just as it prevents eccrine sweating.

Chemical.—The colourless follicular fluid is in many ways chemically identical with eccrine sweat. It does not possess any characteristics which would permit us to distinguish it from eccrine sweat; it is free of protein, which sharply separates it from the whitish apocrine fluid. This evidence also supports the view that the eccrine sweat gland is the source of this secretion.

Theoretical.—Finally, from a speculative viewpoint, it is interesting to note that teleologically there would appear to be no need for an apocrine gland response to thermal stimuli. The axilla abounds in eccrine sweat glands, and normally an excessive quantity of eccrine sweat is provided. The function of the human apocrine sweat gland is as yet undetermined, but at least we are in a position to indicate that there is no necessity for it to serve in a simple thermo-regulatory fashion.

DISCUSSION.

We have reviewed the salient findings which we believe indicate that the two follicular secretions seen actually arise from two different glands. A number of objections have been raised, and it is desirable to discuss these now. It has been pointed out that the apocrine gland is capable of producing sweat in relatively large volume. This view is based on the fact that the horse secretes a large volume of clear sweat during exercise, or in response to thermal stimuli; the horse possesses apocrine sweat glands. However, it is not at all certain that the horse possesses a true apocrine sweat gland comparable with that in man, and it is not possible to predict the function of the human gland on the basis of comparative physiological observations of the lower mammals.

It has also been cited that the apocrine gland is capable of producing an eccrinoid type of secretion in rather large volume, because patients with congenital ectodermal defect have been shown in many instances to be completely

anidrotic except in the axillae. In these patients the axilla may present a relatively normal amount of sweat, and it has been considered that all of this arises from the apocrine glands. It is now known that this is not necessarily true. We have verified the presence of eccrine as well as apocrine glands in the axillae of such patients, and it is our belief that the eccrine glands present were responsible for the normal sweating seen in the axilla.

SUMMARY.

It can be shown that in the axilla two totally different types of secretion may appear at the hair follicle orifice. One is white or milky in appearance and results from adrenergic stimuli; the other is clear and colourless and results from cholinergic stimuli.

Evidence has been produced to indicate that the apocrine glands form the whitish or milky product, whereas the clear aqueous secretion results from eccrine glands.

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ANOMALOUS HISTOLOGICAL FINDINGS IN PEMPHIGUS.

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THE conception of acantholysis as the primary change in pemphigus and the separation of this condition on histological grounds from dermatitis herpetiformis and other bullous conditions is so intellectually satisfying that it has now been almost universally accepted. As the following case apparently cuts right across these ideas I believe it should be reported in some detail.

CASE REPORT.

A woman aged 69. No previous history of skin trouble. At Christmas 1950 she developed a slight rash on the upper part of the back with "blebs like nettle rash"; this cleared in three weeks. In June 1951 she had a feeling as if something was sticking in her throat. A week later her skin felt burning and blisters appeared in crops. She was first admitted to hospital on 3 July 1951.

On admission her general health appeared good. Her skin presented many blisters up to $1\frac{1}{2}$ in. in diameter, rather more plentiful on the limbs than on the trunk; they arose from normal skin, were not grouped and did not itch. There were several raw areas inside the mouth and two bullae on the palate. The general examination was normal.

Blood count: Hb 114%. R.B.C. 5,400,000. W.B.C. 22,000. Bands. 8%; polys. 63; eos. 5; lymphos. 22; monos. 2%.

Vesicle fluid count: Polys. 70%; eos. 26; lymphos. 4%.

Serum proteins: Total 6.2 mg. %; albumin 2.9, globulin 3.3; A/G ratio 0.9.

Blood urea 25.

Her condition rapidly deteriorated with many more blisters and a pyrexia up to 102° F. By 1 August she was almost moribund despite courses of aureomycin and suramin. However, a second course of aureomycin (2 g. daily) was started on 11 August and from that time she steadily improved. She was discharged on 17 September free from blisters.

After about a month two vesicles appeared on the left wrist. Ten weeks later further blisters occurred on the buttocks and similar episodes recurred every 3 to 6 weeks.

She was admitted to hospital a second time in May 1952. The whole skin except the face and soles presented an eruption consisting of thickened erythematous patches, mostly well defined, discoid or gyrate. There were numerous blisters up to half an inch in diameter, mostly on the red patches but partly on normal-looking skin; they were most numerous over pressure areas and extensor surfaces. A blood count on admission showed W.B.C. 7300, polys. 53%; eos. 21; basos 1; lymphos 23; monos. 2%.

She was treated with sulphapyridine without benefit and her temperature reached 105° F. With aureomycin (2 g. daily) the temperature fell rapidly and the blisters diminished in size and number. She was discharged on 1 August with her general condition much better and only very occasional blisters.

A week after discharge her face became red and swollen; this cleared in 3 days but left a red scaling patch on each cheek. In March 1953 she began again to develop

small blisters and a few weeks after the "dermatitis" on the face began to spread. She was admitted for the third time on 5 May 1953.

Her face then showed a scaling erythema with crusting on the scalp (Fig. 1). A similar erythema with rather greasy scales covered the neck and the upper parts of the chest and back, most marked in the mid-line with circumscribed patches from 1 to 10 cm. in diameter; they extended down to the abdomen with lesions also in the groins and natal cleft and a few smaller ones on the arms and legs. Some of the more discrete lesions suggested collapsed blisters and there were a few small blisters on the heels.



FIG. 1.—The patient on her third admission, now a typical example of Senear-Usher syndrome.

Among numerous laboratory investigations the following were relevant or abnormal: Blood count: Hb 75%. R.B.C. 3,750,000. W.B.C. 5800 (4% eosinophils). Serum proteins 7.4 mg. %; albumin 4.1, globulin 3.3.

Her condition improved only slowly despite treatment with aureomycin (2 g. daily), cortisone (300–100 mg. daily), and suramin. After 5 months in hospital she still showed red scaling lesions over the face and chest.

Histology.—Biopsies of recent lesions were performed soon after each of her three admissions. The first two were essentially the same and showed the following picture:

There is a large sub-epidermal vesicle containing a few polymorphs and red cells (Fig. 2). The roof is formed of the whole epidermis which appears normal except

for a little oedema in places and stretching flat of the rete pegs; in one area is a little parakeratosis and localized polymorph infiltrate. The base is formed of oedematous collagen with considerable infiltrate of round cells, histiocytes and a few polymorphs. In the deeper parts of the dermis there is also some perivascular infiltration.



FIG. 2.—Histology at times of first and second admissions—a sub-epidermal vesicle.

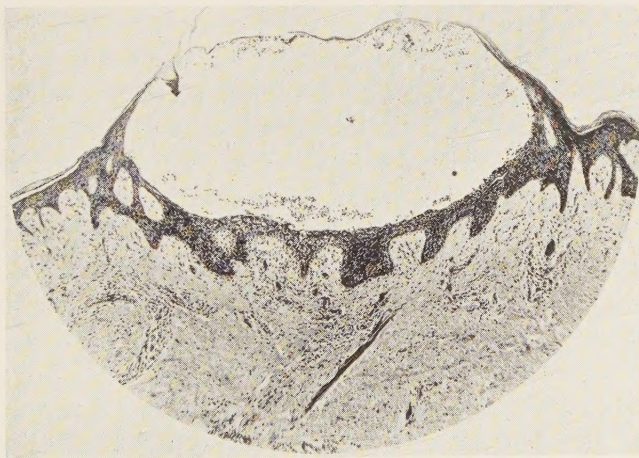


FIG. 3.—Histology at time of third admission—an intra-epidermal vesicle.

Dr. Whimster kindly examined this section and agreed that there was a sub-epidermal vesicle without any evidence of acantholysis.

The third biopsy was entirely different :

There is a well-marked vesicle lying in the upper layers of the epidermis, the roof being formed of the horny layer in the centre though peripherally there are remnants

of the granular layer (Fig. 3). The vesicle contains a few neutrophile and eosinophile polymorphs and some well-marked acantholytic epidermal cells (Fig. 4). The floor of the vesicle is formed of several layers of prickly cells with in places oedema and some

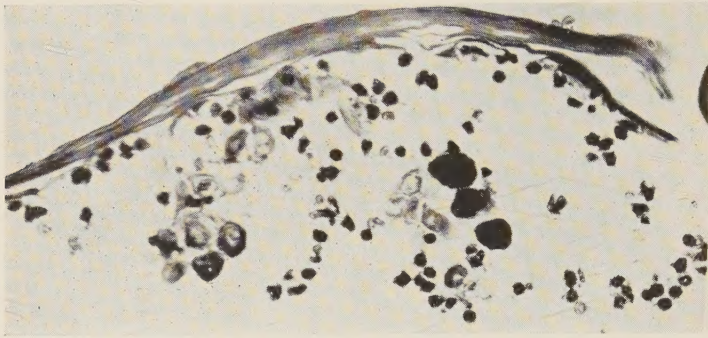


FIG. 4.—Enlargement of Fig. 3 showing acantholytic cells.

infiltration with polymorphs and possibly some acantholysis. There is perivascular infiltration with round cells and a few eosinophils in the upper part of the dermis, but apart from a little oedema in one or two places the collagen is not grossly disturbed.

Summarizing, we have a woman of 69 who in the last two years has been admitted three times to hospital. On the first two occasions she presented a severe bullous eruption involving both the skin and mucous membranes and clinically typical of pemphigus vulgaris, but repeated histological investigations showed *sub-epidermal* bullae. On the third admission she appeared to be a classical case of Senear-Usher syndrome and this was confirmed by the *intra-epidermal* situation of the bullae just below the granular layer.

How can we explain these contradictory histological findings? It could be suggested that this woman has suffered from two distinct diseases—first a bullous eruption, either a type of erythema multiforme or the monomorphic form of dermatitis herpetiformis of old people (senile pemphigoid, or benign pemphigus), and that later she developed the Senear-Usher syndrome. Such a coincidence is extremely improbable, moreover one phase of her illness ran into the other without a break. The lesions never resembled those of erythema multiforme, either individually or in distribution, and the constitutional reaction was much more severe than that usually seen in “benign pemphigus”; during her first attack she was at one time almost moribund till she responded to aureomycin. “Benign pemphigus” does not usually clear up, yet on her third admission all tense blisters had disappeared and her lesions were of the Senear-Usher type. The conclusion seems inescapable that this patient has had one disease throughout though showing at different times different pictures—a not uncommon happening in pemphigus, which may go through vegetating or foliaceous phases in addition to the common bullous one. We must therefore

conclude that pemphigus can present at times with blisters which are situated below the epidermis. Such a conclusion is directly opposed to the currently accepted criterion of pemphigus vulgaris based on histological findings: some dermatologists, however, still question whether such a basis for diagnosis is entirely justified, especially when it disagrees with the clinical findings. The following case illustrates this difficulty.

A man aged 65. Seven weeks before admission he developed blisters on the trunk which did not respond to sulphapyridine. He had never previously had any skin trouble. On admission on 4 September 1952 his general condition was good. Laboratory investigations were essentially normal. Over the whole of the trunk and on the limbs were numerous bullae and raw areas up to 5 cm. in diameter. He was given aureomycin but fresh bullae appeared and on 28 September treatment was changed to ACTH, 100 mg. daily. On 6 October he developed oral lesions for the first time and despite all efforts his condition rapidly deteriorated and he died on 19 October. Towards the end the skin over his back became almost one huge blister. Skin sections were taken when he was first seen in out-patients, on admission and at post mortem. All three histological sections were essentially the same and showed separation of the epidermis from the underlying dermis leaving a cavity containing polymorphs and a few eosinophils but no acantholytic cells—a typical sub-epidermal bulla.

Here we have a man who presented the classical picture of pemphigus, running a rapidly fatal course in three months, in whom repeated biopsies showed consistently sub-epidermal bullae. Are we to diagnose "benign pemphigus" purely on histological grounds when in every other way he resembled acute pemphigus vulgaris?

On the basis of the above evidence I suggest that occasionally pemphigus vulgaris can present with sub-epidermal blisters. As a corollary to this one must consider whether one is justified in separating absolutely the so-called benign pemphigus from ordinary pemphigus. May they not be different phases of the same condition in which those that show a sub-epidermal bulla usually run a more benign course than those in which the bulla is intra-epidermal?

SUMMARY.

1. A case is described which presented clinically first as pemphigus vulgaris and later as Senear-Usher syndrome.
 2. In the first phase the blisters were sub-epidermal, in the second intra-epidermal.
 3. It is suggested that blisters in true pemphigus may occasionally be sub-epidermal.
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TYLOSIS PALMARIS ET PLANTARIS WITH UNUSUAL BULLOUS LESIONS.

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BULLOUS lesions associated with tylosis palmaris et plantaris are uncommon, and for the bullous lesion to precede the onset of hyperkeratosis appears to be extremely rare. In the literature only two cases could be found in whom bullous lesions preceded the hyperkeratosis in this disease. Three patients presenting tylosis palmaris et plantaris in whom bullous lesions preceded the hyperkeratosis are now reported and discussed. In two of the patients the phenomenon occurred in a mother and daughter, and was probably inherited as a dominant mutation (Fig. 1); the third patient was the only member of the family in three generations to develop this abnormality, and is probably an example of a solitary mutation (Fig. 2).

CASE I.—B. R—, female, aged 33 years. (Fig. 1.)

Blisters on hands and feet were found at birth and continued for three months. About this time hyperkeratosis of the hands and feet developed. The patient now has typical tylosis palmaris et plantaris with deep painful fissuring of the normal creases and no hyperidrosis. She has not developed blisters since the age of three months.

CASE II.—L. R—, female, aged 11 months, daughter of B. R—. (Case I.)

This patient was normal at birth, and developed blisters about the soles at the age of three months when she commenced to crawl. At eight months hyperkeratosis of the palms and soles was first noticed. She now has typical tylosis palmaris et plantaris with absence of hyperidrosis. She still develops blisters.

CASE III.—P. L—, female, aged 9 years. (Fig. 2.)

Three days after birth the patient developed a widespread bullous eruption on the trunk, face and limbs, including the palms and the soles. The patient was seen at this time and a diagnosis of pemphigus neonatorum was made. The widespread bullous eruption continued until the age of two years, when hyperkeratosis of the palms and soles was first noticed by the mother. When the patient was again seen at nine years of age typical tylosis of the palms and soles was present, with brownish diffuse keratosis about the elbows, backs of knees and anterior and posterior axillary folds. Hyperidrosis of the palms and soles and shedding of the horny epidermis was noticed. She still develops bullae, which throw plaques of horn from the palms and soles.

DISCUSSION.

MacLeod (1920) described bullous lesions occurring about the soles in congenital tylosis palmaris et plantaris. Recently a family with tylosis and asso-

ciated bullae has been reported by Anderson (1951), in whom the bullae developed after mild trauma and were accompanied by extreme tenderness of palms and soles. Goeckerman (1926) described a patient with congenital ichthyosi-form erythroderma with troublesome bullae about the hands and feet, and Goldsmith (1928) quotes two patients with ichthyosis palmaris et plantaris

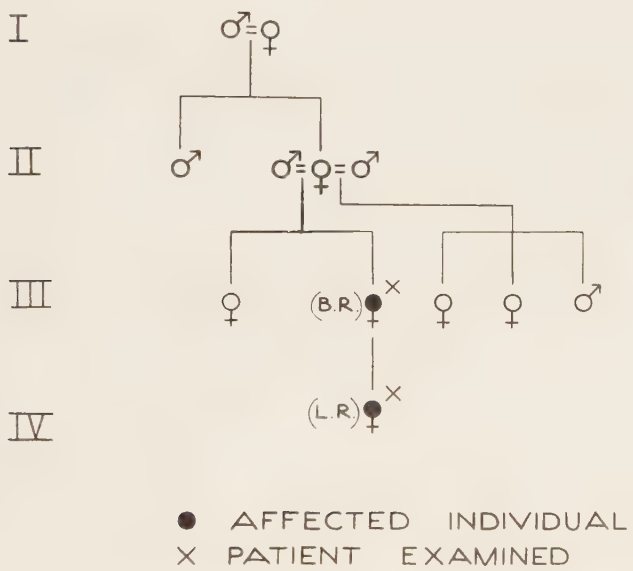


FIG. 1.

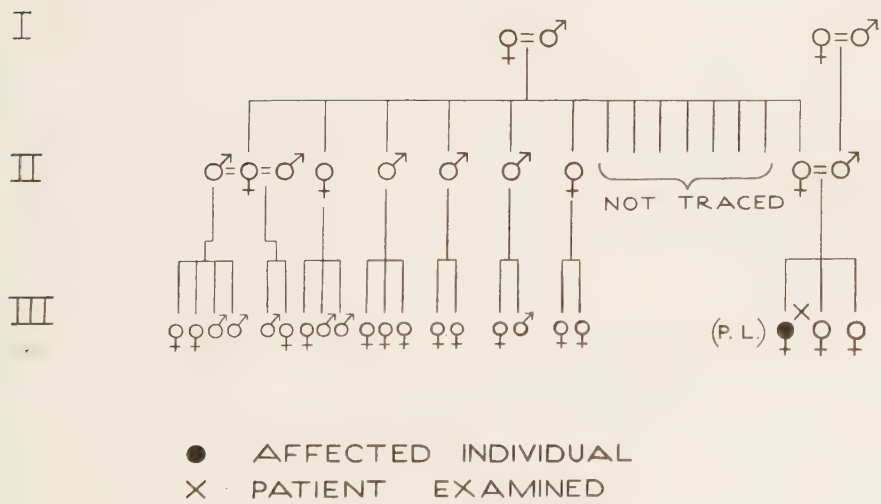


FIG. 2.

reported by Bennet (1893) and Du Castel (1900), in whom bullous lesions preceded the hyperkeratosis of the palms and soles.

The three patients described here differ from those reported by Bennet and Du Castel in that two of the patients were related as mother and daughter, and the bullae in all three patients appeared for many months before the onset of hyperkeratosis.

It has been suggested by Goldsmith that bullae associated with congenital ichthyosiform erythroderma may be due either to trauma or to infection or to both, and that overactivity of the sweat glands might be a factor. In the case described by Anderson trauma appeared to be the determining factor. The cause of the bullae in the patients described above is uncertain. In the patients in whom the bullae were confined to the soles and palms trauma might have been a factor, but in Case III, with widespread bullae, trauma appears to be less likely, apart from those bullae occurring on the soles and palms. Infection seems unlikely, as bullae occurred over long periods, the duration being two years in one patient without other members of the family being affected. If trauma is a factor in the formation of the bullae, it suggests that the condition of tylosis associated with bullae may be a variant of epidermolysis bullosa simplex. Perhaps pressure determines not only the presence of bullae in these cases, but also the hyperkeratosis of the palms and soles.

SUMMARY.

Three patients with tylosis palmaris et plantaris preceded by bullous lesions are reported.

It is suggested that the condition might be a variant of epidermolysis bullosa simplex.

Addendum

Since this paper was prepared Dr. G. B. Dowling and Dr. R. H. Meara have shown four similar cases of tylosis associated with bullae at the Annual Meeting of the British Association of Dermatology, 1953.

I wish to thank Dr. John T. Ingram for his permission to publish these cases and for his constructive criticism of the manuscript.

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TREATMENT OF WARTS WITH A VARNISH CONTAINING EUPHORBIIUM.

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IN spite of the many advances in dermatological therapy in recent years, the small child with multiple warts still remains an embarrassing challenge. In my experience about 25% of common warts can be cured by methods of suggestion, which vary from internal medication to the drama of applying a paint which gives an impressive fluorescence under Wood's light. Too often, however, the patient is subjected to cautery, freezing or curettage.

In an unpublished series of one hundred cases of plantar warts treated by x-ray therapy the rate of cure was 51%. As Forman (1952) has rightly recorded some of these may have disappeared spontaneously, and some were no doubt banished by suggestion. In one case the latter seemed evident as x-ray therapy to one wart also cured within the same time several other untreated warts on the same sole. In the case of single plantar warts careful surgical enucleation should produce a certain cure.

Disappointing experiments with podophyllin resin led to trials with euphorbium, and as the initial results were most promising it was decided, in the autumn of 1951, to conduct a controlled investigation. Euphorbium is the resin collected from the tree *Euphorbia resinifera* and is soluble in acetone, alcohol and ether. In order to localize the application it was decided to incorporate the resin in a varnish. The following varnishes were kept in each hospital dispensary and issued in rotation as the patients reported :

1. Euphorbium	20	.	2. Salicylic acid	20	.	3. Acetone	20
Salicylic acid	20	.	Acetone	20	.	Collodion flex, to . . .	100
Acetone	20	.	Collodion flex. to . . .	100	.		
Collodion flex. to . . .	100	.			.		

The patients were instructed to apply the varnish twice daily and to remove the old application with pumice-stone before reapplication. In the case of plantar warts an adhesive dressing was applied over the varnish. Until the collection of the results eighteen months later no information was exchanged between the clinic and the dispensary.

The treatment time was limited to six weeks unless there was marked improvement at the end of this period. The cured cases were not followed up ; but such claims were recorded only when the wart was replaced by slightly depigmented normal skin. Half the cases received the euphorbium varnish 1, and of the control half only one quarter received the acetone and collodion varnish 3.

TABLE I.

Type.	Number of cases.	Number of warts per case.	Duration in years.	Total cured.	Percentage of cured cases given euphorbium varnish 1.
V. vulgaris .	136 .	1-60 (93% multiple)	1/12 to 11 (85% under 2)	37 (27%) .	40%
V. plantaris .	64 .	1-8 (64% single)	Up to 8 (70% under 6/12) .	35 (55%) .	57%
V. palmaris .	17 .	1-15 (av. 4)	6/12 to 6 (70% under 1)	1 (6%) .	100%
V. plana .	17 .	Multiple	1-6 (75% under 2) .	5 (29%) .	40%

It will be seen (Table I) that there were 78 cures in the 237 cases treated (33.3%), but as approximately half of these cured cases were given a control varnish the part played by the 20% euphorbium resin content was insignificant. In the case of plantar warts the corrected proportion of cases which received the euphorbium varnish 1 and were cured was 32%. This does not compare favourably with a recently published uncontrolled series of 60 cases, where 30% euphorbium in alcohol produced quick cures in 58 cases (Goldblum, 1953). It is hoped to repeat this experiment using a greater concentration of euphorbium in the varnish.

SUMMARY.

1. A controlled series of 237 cases of warts treated with a 20% euphorbium varnish is described.
2. One third of the cases were cured, but of these approximately one half received a control varnish.
3. In the strength used, the euphorbium did not appear to play a significant role.

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LETTER FROM FRANCE.

FROM PROFESSOR R. DEGOS,

Professeur de Clinique des maladies cutanées et syphilitiques à la Faculté
de Médecine de Paris ; Médecin de l'Hôpital Saint-Louis.

GENTLEMEN,—It gives me genuine pleasure to send to our British friends this first "Letter from France," and I at once wish to congratulate them on the splendid organization and success of the International Congress of Dermatology and to thank them for the very cordial welcome we received there.

Professor Gougerot's Jubilee was celebrated on 18 July 1952 and was the occasion for paying deferential homage to the distinguished master of the French School : his extensive work keeps all its interests up to date, as witness the recent publications on Nodular Allergic Lesions (Gougerot's triad), on the Gougerot-Sjögren syndrome and on Chronic Familial Benign Pemphigus of Gougerot-Hailey-Hailey.

The *Journées Dermatologiques de Lyon* (26-27 May 1951), under the presidency of Professor Gaté, were devoted to the consideration of Seborrheic Pemphigoid (Senear-Usher syndrome) (E. Griveaud and J. Duverne ; A. Touraine) and of Non-Gonococcal Urethritis (P. Guilleret and J. Pellerat ; P. Durel and J. L. Borel ; H. Thiers).

The *Colloque Annuel De Marseille* (19-21 October 1951), organized by Professor Charpy, considered Non-Specific Organic Reactions and their incidence in dermatology, with numerous reports on Reilly's irritation syndrome, on Selye's adaption syndrome, on diffusion phenomena, on the collagenoses, on allergy and on the aetio-pathogenesis of psoriasis.

The Eighth Congress of *Dermatologists de Langue Française* was held at Nancy on 29-30 May 1953, with Professor Watrin in the chair. Three subjects were discussed : Acute Lupus Erythematosus (J. Watrin, B. Duperrat and J. Beurey ; J. Gay Prieto ; L. M. Pautrier), Dermatomyositis (R. Degos ; P. le Coulant and L. Texier ; A. Dupont ; A. Midana and R. Leone), and the Genoneurodermatoses (P. Kissel and J. Beurey ; A. Touraine).

The *Société française de Dermatologie* held a special meeting to discuss the treatment of skin diseases with ACTH and cortisone. The consensus of opinion was that these hormones had an immediate effect which was often striking but was nearly always transitory.

The part played by hyaluronidase on experimentally-produced eczema has been studied by Charpy, Oddoze and Stahl (1952). Leclercq (1952) has published an extensive review on hyaluronidase in relation to dermatology.

The clinical and histological criteria of lichen planus have been discussed by Gougerot and Civatte (1953). Gougerot again draws attention to atypical and invisible forms of the disease.

Psoriasis is considered by Charpy (1951) as an adaption disease reflecting proteo-glycogenic instability under control of the diencephalon, which it stimulates either directly or indirectly. Bolgert *et al.* (1951) likewise consider that psoriasis should be classified as a psychosomatic dermatosis. Degos, Garnier, Hewitt and Py (1953), in discussing a case of generalized pustular psoriasis, stress the impetigo herpetiformis-like appearance of this rare form of the disease.

The existence of lupus erythematosus profundus of Kaposi-Irgang is questioned by Pautrier (1953); this author considers that it really results from the simple co-existence on different parts of the body of lupus erythematosus and of the hypodermic sarcoid of Darier-Roussy. Ebrard (1952) described the clinical and histological aspects of lupus erythematosus of the buccal mucous membrane in 26 patients studied in Degos's clinic.

Our knowledge of the Mastocytoses has been advanced by the recognition of new forms, both cutaneous and extracutaneous, with or without urticaria pigmentosa. As a result of one case investigated by Hissard, Moncourier and Jacquet (1951) and by Degos *et al.* (1951), a malignant mast-cell reticulosis with considerable mast-cell proliferation in the cutaneous lesions (without urticaria pigmentosa), in the spleen, lymph nodes, blood, bone marrow, and ending fatally within a few years, can now be identified.

A second case, one in which urticaria pigmentosa was associated with diffuse erythrodermia and which showed massive infiltration of the dermis with mast cells, was described by Degos *et al.* (1952). Degos and his co-workers emphasize the importance of generalized pruritus, the involvement of the flexures (the thickened and criss-cross appearance of the skin of the axillae and groins), and of the dense mast-cell infiltration of the skin, which are characteristic of this type of malignant mast-cell reticulosis, of which they found incipient forms in two other patients. Studies on the physiology of mast cells have been undertaken by Degos *et al.* (1953).

Malignant histiocytic reticuloses have acquired an increasing importance and numerous cases have been reported in France, with or without monocytæmia (Sézary, Degos, and others). It now seems possible to define both clinical and histological criteria of this condition, which was previously included with mycosis fungoides, the leucaemias and sarcomas. The absence of pruritus, the monomorphic infiltration of the skin with histiocytic cells and with giant monocytic cells, the invasion of the marrow and the occasional presence in the blood of abnormal monocytes, characterize the disease. Sézary (1952) has published many papers on the classification of the reticuloses.

Degos *et al.* (1949) recorded the beneficial effect of a skin graft on a case of

malignant histiocytic reticulosis with tumour formation and ulceration, the malignant proliferation both *in situ* and in distant parts (bone marrow) having been arrested. This was confirmed by a similar result in a case of sarcoma (Bolgert *et al.*, 1951), and raises the problem of the action of skin grafting on proliferative processes, a study resumed by C. Dufourmentel.

Porphyria with cutaneous manifestations has been investigated by Bolgert, Canivet and le Sourd (1953): the dermo-epidermic bulla is distinguished from that of dermatitis herpetiformis (Duhring) by the empty appearance of the bulla, by the constantly found festooned appearance of its floor, and by the absence of inflammatory changes in the corium.

A special variety of diphtheria of the skin, vacciniiform or varicelliform cutaneous diphtheria has been recorded in 7 infants by le C'oulant and Sourreil (1951, 1952), who raise the question of the possible diphtheritic nature of certain cases of Kaposi-Juliusberg's varicelliform eruption.

Two cases of erythema elevatum diutinum studied by Degos and Garnier (1952) lead these authors to discuss the classification of this dermatosis: they consider that it should retain its separate entity and should be distinguished from granuloma annulare and from eosinophilic granulomas.

Malignant pustulosis with atrophy (fatal cutaneo-intestinal syndrome) first described by Degos, Delort and Tricot in 1942, has been the subject of recent investigation by Degos (1952).

Foreign-body tumours (silicotic granuloma, etc.) have been studied by Duperrat (1952). Degos and Carteaud (1953) bring arguments in support of a case of sarcoidosis having been initiated or revealed by silica.

The vast field of the "Genodermatoses" and of dysplastic conditions continues to expand following the researches of Touraine (1951), who continues his constructive work. A study of the disorders of induction leads this author to a rational classification of naevi.

The Nancy School, with Prof. J. Watrin, are investigating the changes in the blood in various dermatoses (dermatitis herpetiformis, pemphigus, psoriasis, the erythrodermias) and from this are able to draw conclusions of therapeutic value regarding depletive therapy, blood transfusions, etc.

The fact emerges from numerous publications that the Middlebrook-Dubos reaction can be of real diagnostic value in dermatology: this reaction has always been found to be negative in sarcoidosis: it is positive in 50% of cases of tuberculosis: it is positive in lepromatous leprosy and in febrile exacerbations of tuberculoid leprosy, but negative in stabilized tuberculoid leprosy: hence its prognostic value in leprosy (Basset, Boujnah and Cassius de Linval, 1953).

A very interesting histo-chemical study of the cutaneous glucides has been made by Dupré (1953), mainly by use of the Hotchkiss-MacManus reaction.

Among new therapeutic attainments, apart from reports on ACTH, cortisone,

hyaluronidase and nicotinic acid hydrazide, should be noted the treatment of exudative eczema with heparin (de Graziansky) and with glutamic acid (Charpy); of aphthous ulcers with large doses of intravenous vitamin C (Degos); of pemphigus by a combination of quinacrine and aureomycin (Bolgert); of lepra reactions with K-thrombyl (Merklen); of ocular leprosy with cortisone combined with corneal grafting (Degos); of genital kraurosis by the application of ointments containing acetylcholine 2% and histamine 0.5% (J. J. Meyer); of flat haemangiomas by sclero-grattage (Verdier).

Three new books on dermatology have been published in France: *Occupational Dermatitis*, by H. Gougerot and A. Carteaude, the *Atlas of Dermatology*, by P. de Graciansky and S. Boule, in serialized form, and the *Text Book of Dermatology*, by R. Degos, with annual revision.

The study of the proteins of syphilitic sera has been continued by Merklen and Berthaux (1951, 1952): the localization of syphilitic antibody in the euglobin fraction of the serum; the value of Neurath's test in the elucidation of false positive reactions; the estimation of blood proteins in early syphilis by electrophoretic analysis and by the "salting out" method with neutral salts; the serum haptogen index in such sera (Merklen *et al.*, 1952).

Nelson's treponema immobilization test was discussed at a special meeting of the *Société de Dermatologie* and of the *Colloque de Marseille*. The test has been especially investigated and performed in France by Durel, Gausse Borel and Daguet on the one hand and by Levaditi and Vaisman on the other.

Research on immunity in experimental syphilis has been carried out by Gastinel and Collart (1951) and these workers with Sausse and Borel (1951) have clearly defined the reaction behaviour of the sera of syphilis-infected and of normal rabbits *vis-à-vis* Nelson's test (Gastinel *et al.*, 1952).

The treatment of syphilis still arouses much discussion. Several types of penicillin therapy in a single course have been suggested, and supported by statistical evidence: three injections of cyanide of mercury followed by 15 mega-units of penicillin in aqueous solution (M. Bolgert and G. Lévy); three weekly injections of 3 mega-units of P.A.M. (P. de Graciansky and C. Grupper), a single injection of 1,200,000 Oxford units of P.A.M. (P. Joulia and his co-workers). But many French syphilologists remain believers in follow-up bismuth therapy, in order to give the patient the double safeguard offered by penicillin and bismuth: bismuth should not be given during the course of penicillin but should immediately follow on this. Terramycin, insofar as it is an anti-syphilitic agent, has been studied experimentally by Levaditi and Vaisman (1951) and clinically by Périn *et al.* (1952) and by Blum and Carteaude (1952).

Two new works on syphilis have been published in France: one by A. Sézary, the other by L. M. Pautrier in the *Traité de Médecine* (Vol. 3).

We are waiting to welcome you at the St. Louis Hospital.

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NORTH OF ENGLAND DERMATOLOGICAL SOCIETY.

Leeds, 14 April 1953.

Xanthomatous Biliary Cirrhosis.—Dr. CLIFFORD STUART.

A labourer, aged 47.

History.—He had an attack of jaundice lasting a week in 1949. In August 1951 he again developed jaundice, which was preceded by vomiting and accompanied by pruritus. He was admitted to hospital in November 1951.

Family history.—No family history of xanthomatosis or gall bladder disease. His parents were not related.

On examination.—There was severe jaundice, the abdomen was distended, the liver palpable but not the spleen. The blood pressure was 190/110 and the stools were clay-coloured. When the abdomen was opened in January 1952 and again in December 1952 the liver was found to be enlarged and the bile ducts and gall bladder small. A liver biopsy was taken and two enlarged hilar glands were removed for section.

Towards the end of 1952 typical lesions of xanthoma tuberosum began to appear on the elbows, buttocks, neck, shoulders, cheeks and hands. He also developed flat xanthomatous infiltrations of the creases of the palms and cubital fossae.

Investigations.	January 1952.	December 1952.	June 1953.
Serum cholesterol . . .	—	1223 mg. %	474 mg. %
Blood lecithin . . .	—	—	400 mg. %
Serum bilirubin . . .	5.2 mg. %	11.5 mg. %	14.5 mg. %
Thymol turbidity . . .	5 units	—	—
Serum albumin . . .	—	2.5 gm. %	—
Serum globulin . . .	—	4.16 gm. %	—
Prothrombin time . . .	16 seconds	16.2 seconds	58.2 seconds
Prothrombin content . . .	—	45%	Less than 10%
Alkaline phosphatase . . .	88 units/100 ml.	110 units/100 ml.	117 units/100 ml.
Blood urea . . .	—	38 mg. %	32 mg. %
W.R. and Kahn . . .	Negative	—	—

Histology (10.i.53) (Dr. W. L. Rose).—The liver cells are swollen and many of the liver and Kupffer cells contain phagocytosed bile pigment. There is a cellular infiltration of the portal tracts but as yet not much evidence of any marked degree of cirrhosis.

The glands show reticulo-endothelial hyperplasia with much phagocytosed coarse pigment.

Treatment.—In December 1952 he was complaining of severe itching. He began to take methyl testosterone 25 mg. daily and remained free from itching as long as he continued to take it.

Course.—There was little change except that the lesions of xanthoma tuberosum became less prominent. He is still taking methyl testosterone and extra protein.

Comment.—Thannhauser (1950) states that it must be assumed that xanthomatous biliary cirrhosis with its typical features is so far confined only to females. He believes that the few cases previously reported as occurring in males were actually cases of haemochromatosis with skin xanthomata, chronic jaundice of slight grade and hepatosplenomegaly. This patient appears to present all the diagnostic features of xanthomatous biliary cirrhosis and does not appear to be a case of haemochromatosis.

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Other cases shown were :

Granulosis rubra nasi ; Lentigo maligna ; Trophic ulcer of nose ; Infantile acne ; Incontinentia pigmenti ; Pityriasis rubra pilaris ; Mycosis fungoides.—Dr. HELLIER.

Molluscum Sebaceum.—Dr. EVERALL for Dr. HELLIER.

Angiokeratoma and Congenital Defects including Klippel-Feil Syndrome ; Darier's Disease ; Telangiectatic Lupus Erythematosus ; Progressive Lipodystrophy ; Parapsoriasis en Plaque ; Purpura Annularis Telangiectodes (Majocchi) ; Poikiloderma of Jacobi and Reticulosis ; Cushing's Syndrome ; Pustular Psoriasis ; Lupus Vulgaris.—Dr. ANNING.

Acne Conglobata ; Lichen Sclerosus et Atrophicus.—Dr. STUART.

Leprosy ; Reticulosis.—Dr. SAVAGE.

Post-partum Endocrine Disorder with Menstrual Disturbance, General Debility and Pigmentation.—Dr. HARKNESS for Dr. ANNING.

THE WEST OF ENGLAND AND WALES DERMATOLOGICAL SOCIETY.

Truro, 13 June 1953.

The following cases were shown by Dr. F. A. WHITLOCK :

Primary Sweat Gland Carcinoma.

A man aged 47.

This patient gave a history, when seen by Dr. Hair in November 1951, of having had a lump on the left side of his neck for about ten years. Shortly before he was seen he had noticed lumps appearing on the skin near the original tumour and also across the front of his chest.

On examination he had a nodule on the left side of the neck with subcutaneous nodules spreading across the chest suggesting a direct lymphatic spread. Enlarged glands were present in the neck, under the chin and in the left axilla.

Histology.—(Dr. R. Salm.) The corium is fibrous and invaded by masses and columns of closely spaced, de-differentiated squamous cells, possessing nuclei which vary somewhat in size and shape, and are often vesicular, and which are surrounded by a modest rim of eosinophil cytoplasm. Mitotic figures are present but few. Below the epidermis the growth completely fills the dilated lymphatics, and here the cells display a marked prickle-cell character. Here and there the centres of the larger masses have become liquified. Occasionally tubular structures are discernible, which blend imperceptibly into the squamous-cell masses. These are lined by cuboidal or flattened cells of epithelial type, while externally there is a second row of flat cells, often placed tangentially in myoepithelial fashion. The stroma is patchily infiltrated with moderate numbers of inflammatory cells.

Progress.—Radiotherapy did not make very much difference to the lesions and the patient was referred to Mr. Fitzgibbon for surgical treatment. This was carried out in Bristol in July 1952 with plastic repair of the area removed.

When seen about six weeks ago he had nodules under the skin on the right side of the chest and he has recently been back to Bristol for these to be removed. His chest skiagram is normal and shows no intra-thoracic spread of the tumour.

Chloracne.

A man aged 56.

History.—In January 1952 a shipload of chemicals in Falmouth harbour caught fire and the patient, who is a docker, helped put out the fire and unload part of the cargo. At the time of the fire there was an outbreak of an acute vesicular dermatitis of the arms and face among the firemen and dockers but this patient was not severely affected. This dermatitis was thought to be due to formaldehyde present in the cargo.

The patient was first seen by me in December 1952, and stated that his present eruption began about two months after the fire.

Treatment with x-rays and peeling pastes has not produced much change. He has also been given heparin, 25 mg. twice weekly, in the hope of mobilizing some of the fat out of the skin lesions: this treatment has not made the slightest difference.

On examination.—There is an eruption composed of large numbers of comedones, pustules and sebaceous cysts affecting the whole of the upper part of the body (Figs. 1 and 2). There is also gross dental sepsis.

Comment—Enquiry showed that there were no chlorinated hydrocarbons in the ship's cargo and it is not easy to say why this particular patient was so severely affected compared with others who worked in the ship at the same time. Two other cases with milder degrees of the eruption have been seen and Dr. A. J. Rook has told me that he saw cases among dockers in Cardiff who handled the remains of the same cargo after the ship had gone there for unloading. Chlorinated hydrocarbons are used as insulating materials for electric wiring in ships and it is possible that they were the source of the chemical in this case.



FIG. 1.

Acrodermatitis Pustulosa Hiemalis.

CASE 1.—A woman aged 20. This patient has had a recurrent eruption on the hands for the past six years, worst in the winter and usually healing in the summer.

On examination.—Her hands are cold, rather moist and cyanosed. The lesions are small red papules, about 2 mm. in diameter with a white halo around them. Some of them break down to form small shallow ulcers which heal after about 3 or 4 weeks leaving white atrophic scars. At first this was thought to be a papulo-necrotic tuberculide but the Mantoux test 1:10,000 was negative and the chest skigram was normal.

CASE 2.—A girl aged 15. This patient, of Lithuanian nationality, has had the same type of eruption on her hands, knees and toes for the past 2½ years. She has the same seasonal incidence and type of circulation with cyanosed, sweating hands and feet as

has the first patient. Although there is a family history of tuberculosis in this case her Mantoux test was negative and the chest skiagram normal.

Both these patients have been treated with ascorbic acid, 100 mg. thrice daily, and both think that they have had fewer lesions than they usually would at this time of the year.

Dr. G. B. DOWLING : I think that these cases are not tuberculous but that they are examples of the condition described in Stelwagon's text-book as *acrodermatitis pustulosa hiemalis*. They seem to be an abnormal vascular response to cold.

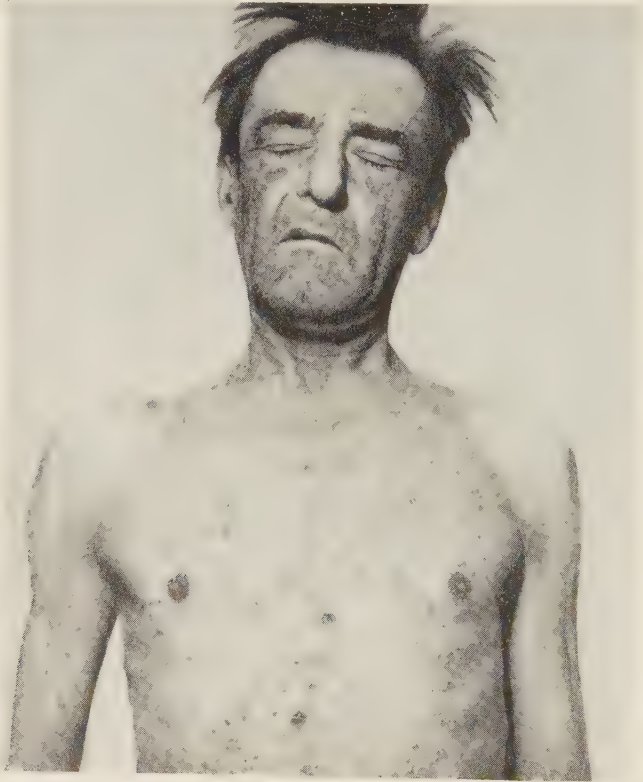


FIG. 2.

The following cases also were shown :

Hypercholesterolaemic Xanthomatosis ; Lupus Erythematosus (2) ; Punctate Keratoderma ; Junction Naevus ; Epidermolysis Büllosa ; Lichen Planus ; Sarcoid ; Ulerythema Reticulata Faciei ; Ulerythema Ophryogenes ; Chronic Pemphigus ; Lupus Vulgaris ; Parapsoriasis en Plaques ; Pityriasis Lichenoides et Varioliformis Acuta ; Dyskeratosis Congenita ; Cicatricial Alopecia with Ichthyosis ; Congenital Ichthyosis with Tylosis Palmaris et Plantaris ; Primary Tuberculous Complex ; Urticaria Pigmentosa ; Leucoderma Acquisitum Centrifugum ; Werner's Syndrome ; Necrotising Arteriolitis (2).

OBITUARY.

WILLIAM GRIFFITH, M.B., B.Ch.Vict., M.R.C.P.

WILLIAM GRIFFITH, who died on 27 December 1953 at the age of 85, was almost the last remaining original member of the London Dermatological Society, which was founded in 1911, and which became the St. John's Hospital Dermatological Society in 1924. He was President of the Society in 1914-15, 1917-18 and 1925-6.

William Griffith was born in 1868 at Sebonig, Dyffryn, North Wales, and educated at Christ's College, Brecon. He qualified in medicine at Owen's College, the Victoria University of Manchester, in 1891, and pursued further studies at University College Hospital and Middlesex Hospital in London, obtaining the M.R.C.P. London in 1909. Having held the appointment of casualty officer at St. John's Hospital for Diseases of the Skin in Leicester Square (where it was then situated) he was appointed assistant physician to that hospital in 1909 and physician in 1910. This appointment he held until his retirement in 1949. He was chairman of the medical committee of the Hospital and a member of the committee of management for a number of years, and took an active part in organizing the removal of the Hospital from Leicester Square to its present site in Lisle Street.

He took a temporary commission in the R.A.M.C. in 1914 and acted as specialist for diseases of the skin in Aldershot Command from 1914-1919. He was mentioned in dispatches.

He was medical referee to the L.C.C. and St. Pancras Borough Council during the small-pox epidemic of 1901-02, and was an active member of the B.M.A. and fellow of the Royal Society of Medicine.

He was an active lecturer in the London School of Dermatology, now the Institute of Dermatology in the British Postgraduate Medical Federation, and was an examiner for the Chesterfield Medal in Dermatology on several occasions.

Although Dr. Griffith published little, his experience was great. He was essentially a kindly man but his quiet retiring manner did not make it easy to know him well. He was patient and seemed to have a particular gift of calming the difficult or distressed sufferer, even in the *mêlée* of a crowded, busy out-patient department. His wife, who predeceased him, was almost a cripple from rheumatoid arthritis, and was his constant care, and this largely explained his relatively few social appearances among his colleagues.

J. E. M. W.

BOOK REVIEW.

DERMOPAPILLOSCOPY.*

DERMOPAPILLOSCOPY is the study of the permanent ridges of the skin. The first paper of scientific interest about them seems to have been one by Neremiah Grew in the *Philosophical Transactions of the Royal Society* in 1684; Malpighi's paper about them appeared two years later.

In monkeys and in man the slight roughness of the ridges lessens the likelihood of the grasp slipping, and as the tactile corpuscles lie in the dermal papillae that support the ridges these last may help in the finer discrimination of touch. Dermopapilloscopy from the morphological aspect is usually a study of normal fingerprints by the police as a means of identification, but medically the study is extended over larger areas of skin, noting temporary or permanent alterations and correlating them with changes elsewhere in the body.

The common belief that fingerprints never alter is erroneous. Although the particular pattern of ridges and folds is kept, their width and also the size of the openings of the sweat ducts can vary: they widen in fever and contract when the fingers are cold.

The technical processes used for taking dactylograms by the police do not necessarily suit the purpose of medical investigation. For instance, the hands of the suspect often sweat with apprehension when his fingerprints are about to be taken, so an impression taken without a preliminary drying of the fingers would be blurred and unsuitable for record purposes, but from the pathological point of view would be excellent evidence of hyperidrosis.

Almost all the primary dermatological lesions except the macule and the most deeply seated nodule leave their special mark in an impression. These alterations may be temporary, vanishing when the lesion has cleared, or permanent when lasting structural alterations of the skin have followed. There are characteristic differences in impressions of the abdominal wall in men and women, but it is not stated whether such an examination would help to resolve an example of doubtful sex.

The clinician who may be interested in this special aspect of diagnosis will find nearly all the information he requires in the second volume. Skin prints may afford a means of early diagnosis, e.g., small nerve lesions that do not necessarily cause gross trophic changes are rapidly followed by flattening of the ridges in the denervated area. The most astonishing example of early diagnosis given was that where abnormal features appeared in the fingerprints of a man in whom no signs of disease could be found elsewhere: histological sections of the affected area showed small lepromata in the skin.

Oppenheim has studied the changes that occur in occupations and their disorders. Not all dermopapillograms are as helpful. It is hardly necessary to resort to them for the diagnosis of acromegaly, syndactyly, congenital mutilations or mongolism, the skin impressions of which are recorded here.

The volumes are well printed and illustrated. The numerous references seem to cover the subject completely. Altogether an interesting study. G. W. B.

**Dermopapilloscopia Clinica*. By ISRAEL CASTELLANOS. Habana: P. Fernández y Cia, 1953. 2 vols. Pp. 219 and 291. 54 and 143 illustr.

CURRENT LITERATURE.

RIEHL'S MELANOSIS. LUIS E. PIERINI. (1952) *Arch. argent. Derm.*, **2**, 315.

Between 1938 and 1943 a large number of women were seen in Argentina with a pigmentary dermatosis of the face and neck, the cause of which was found to be the colouring matter in face powder (orange II, 1-*p*-sulphophenyl-azo-2-naphthol). The author has taken up the problem again and he arranged the various melanoses due to tar into the following groups:

1. Occupational—lichenomelanodermitis of Hoffmann—Habermann.
2. Cosmetic—Riehl's melanosis and Brocq's erythroze péribucale pigmentaire.
3. Medical—Following the application of ointments containing resorcin or pyrogallol.
4. Prepigmentary erythematous dermatitis.

Civatte's poikiloderma, which is distinguished from Riehl's melanosis by the presence of telangiectases, slight atrophy and localization to the sides of the neck and face, has a different origin; it is an actinic dermatitis connected with endocrine dysfunction.

G. W. B.

A REVIEW OF SOME CASES WITH HAEMOSIDEROSIS. L. M. BECHELLI, L. BAPLULA and F. L. ALAYONE. (1952) *Arch. argent. Derm.*, **2**, 281.

After investigating 4 examples of Schamberg's progressive pigmentary dermatosis, 2 of purpura annularis telangiectodes and 3 of pigmented purpuric lichenoid dermatitis, the authors conclude that they are not different morbid entities, but only clinical or histological aspects of the same disorder, fundamentally a capillaritis.

G. W. B.

THREE CASES OF CUTANEOUS BLASTOMYCOSIS WITH MULTIPLE FOCI. P. JOULIA, P. LE COULANT, L'ÉPÉE and TEXIER. (1952) *Ann. Derm. Syph.*, **79**, 501.

Blastomycosis, though rare in Europe, may sometimes be overlooked because the diagnosis has not been considered. Possibly some cases that have been diagnosed as pyodermatitis vegetans may really belong to this category. The authors report three cases starting with acneiform spots which rapidly changed into either vegetating ulcerations or gummatous lesions, of which there are some good pictures. The recovery of the parasite proved very difficult. The most effective treatment was aureomycin and curettage.

F. F. H.

AN ATTEMPT AT INOCULATION OF KAPOSI'S DISEASE INTO GUINEA-PIGS. H. THIERS, POTTON and TRAMIER. (1952) *Ann. Derm. Syph.*, **79**, 517.

The authors inoculated guinea-pigs by ocular, testicular and medullary routes with tissue from Kaposi's disease. Although they produced a prolonged illness it bore no similarity to the original condition, and they were unable to state whether it was caused by the inoculation or due to a spontaneous development.

F. F. H.

PORPHYRIA IN SOUTH AFRICA. H. D. BARNES and J. MARSHALL. (1952) *Ann. Derm. Syph.*, **79**, 521.

This article summarizes briefly the present conceptions of porphyria, and presents some illustrations of the disease in coloured people without any detailed case-histories.

F. F. H.

LUPUS ERYTHEMATOSUS PROFUNDUS (KAPOSI-IRGANG). O. G. COSTA and M. A. JUNQUEIRA. (1952) *Ann. Derm. Syph.*, **79**, 535.

The authors describe a patient in whom superficial lesions were associated with deep ones, the latter being felt as very firm, painful deep nodules. They claim that a positive diagnosis can be established by histological investigation, though it is facilitated by the presence of the superficial plaques.

F. F. H.

EXAMINATION OF THE SPINAL GANGLIA IN CASES OF PEMPHIGUS. J. BALÓ and F. FÖLDVÁRI. (1952) *Ann. Derm. Syph.*, **79**, 626.

The authors examined 15 cases of pemphigus and found numerous changes in the spinal ganglia, the most constant of which was the presence of cysts which occurred in five patients.

They also found evidence of inflammation, and concluded that pathological changes of some sort are usually found.

F. F. H.

ACRODERMATITIS CONTINUA OF HALLOPEAU. J. J. ZOON. (1952) *Ann. Derm. Syph.*, 79, 641.

A very extensive case is described involving the face and scalp. Typical pustules were present which were almost constantly sterile. Treatment was of little avail. F. F. H.

A CONTROLLED CLINICAL STUDY OF THE EFFECT OF X-RAY THERAPY IN CERTAIN NON-MALIGNANT DERMATOSES. J. T. CRISSEY and W. B. SHELLEY. (1952) *New Engl. J. Med.*, 247, 965.

Portions of skin affected with psoriasis, lichen planus, lichen simplex chronicus, eczema, contact dermatitis and acne vulgaris were given 100 r at weekly intervals on four occasions and the effect noted.

When the irradiated areas were compared with the control, slight improvement was discernible in eczema, contact dermatitis and acne vulgaris, while in psoriasis, lichen planus and lichen simplex chronicus the response was significantly greater. A. D. P.

PASSIVE TRANSFER OF TUBERCULIN SENSITIVITY TO PATIENTS WITH SARCOIDOSIS. F. URBACH, M. SONES and H. L. ISRAEL. (1952) *New Engl. J. Med.*, 247, 794.

Experiments showed that sensitivity to tuberculin could be transferred by injecting washed white blood cells (method of Lawrence) from positive reactors into the skin of persons previously negative. In six patients with sarcoidosis the reaction changed from negative to positive. Cells from a case of sarcoidosis did not prevent a positive reaction in a tuberculin-positive subject.

It is concluded that "tuberculin anergy in sarcoidosis is non-specific and due to involvement of the reticuloendothelial system by the disease." A. D. P.

THE MODERN TREATMENT OF ECZEMA. B. A. THOMAS. (1952) *Med. Pr.*, 227, 429.

It is impossible in a short article to cover completely the whole of treatment of all forms of eczema and dermatitis, but the author summarizes well the methods of treatment in general use at present. He particularly stresses the dangers of over-treatment and too frequent changes of application. Occupational therapy is useful during the healing stage, and an early return to congenial and suitable employment may be preferable to a long-drawn-out convalescence.

H. R. V.

MODERN TRENDS IN ACNE THERAPY. B. PORTNOY. (1951) *Med. Pr.*, 225, 643.

This article reviews briefly but adequately the current views of the formation of acne vulgaris, and gives comprehensive details of the methods of treating this distressing complaint.

The author stresses the importance of using hormone therapy only if local treatment fails.

H. R. V.

MONILIASIS. CLARA M. WARREN. (1952) *Med. Pr.*, 228, 59.

Manifestation of monilia infection occurs commonly in the mouth, gluteal cleft, vagina and vulva, the interdigital spaces of the hands and feet and in the nail-folds.

The author finds cetrinide useful in treatment and for moniliasis of the anal region uses zinc peroxide, 1 g. in zinc cream 1 oz., as a local application.

H. R. V.

INDUSTRIAL CANCER. A. N. CURRIE. (1952) *Med. Pr.*, 228, 460.

The commonest industrial cancers are cancer of the skin associated with contact with soot, tar, pitch, bitumen, shale and other mineral oils, arsenic, x-rays and radio-active bodies; cancer of the bladder associated with aniline and its derivatives; and cancer of the lung associated with arsenic, cobalt mining, chrome and nickel refining.

The industries in which cancer of the skin is an occupational hazard are outlined. In tar and pitch works a certain amount of direct contact with these substances is unavoidable, and regular inspection is necessary to discover and treat the early hyperkeratoses of the skin before they become invasively malignant.

Carcinoma of the scrotum which occurs in mule spinners is due to the shale oil used in this process, and prevention is directed towards the use of innocuous oils and protection from splashing.

H. R. V.

STUDIES OF METHODS OF DETERMINING CAPILLARY FRAGILITY. I. POSITIVE PRESSURE TECHNIQUE. D. J. PERRY and I. H. LINDEN. (1952) *J. invest. Derm.*, 19, 35.

This study is solely concerned with the influence in the Rumpel-Leede test of duration of compression and of the subject's age. In every case the pressure used was the diastolic plus half the difference between diastolic and systolic pressures.

In 50 subjects, 10 in each age-group between 20 and 70, the test was applied with a duration of 3 minutes to both upper extremities in order to exclude the existence of a difference between left and right.

140 subjects equally distributed over 7 decades were tested with 3 minutes on one arm and 6 on the other. The conclusion reached is that 3 minutes is about right except for subjects under 20, who need 6.

A summary of the literature and useful bibliography are provided.

J. H. T. D.

A RAPID METHOD OF STAINING FOR FUNGUS AND MONILIAL INFECTION. S. CHERM-SIRIVATHANA. (1952) *J. invest. Derm.*, 19, 7.

The author does not make it clear what advantages, apart from cheapness and ready availability of materials, he claims for his method. Any technique which involves the flushing of reagents under the coverslip with a piece of blotting-paper is handicapped from the start: and the author is not even sure if his preparations are capable of being rendered permanent. He quite frankly admits that the old-fashioned potash technique is superior for thick specimens—which are of course the ones that make the difficulty.

J. H. T. D.

EXCHANGE GRAFTS IN VITILIGO. G. A. SPENCER and J. A. TOLMACH. (1952) *J. invest. Derm.*, 19, 1.

Elsewhere it has been shown that, in vitiligo, depigmented skin repigments when transplanted to a normal site. In fixed eruption drug, however, it seems that the defect goes with the graft, but it may also reappear at the original site.

In the experiments here reported full thickness (autochthonous) exchange grafts retained their characters for 16 months.

J. H. T. D.

RELATION OF DEWPOINT AND BAROMETRIC PRESSURE TO CHAPPING OF NORMAL SKIN. L. E. GAUL and G. B. UNDERWOOD. (1952) *J. invest. Derm.*, 19, 9.

The authors demonstrate most convincingly that the kind of weather associated with chapping is that which is characterized by a high barometer and a low dewpoint. They make a plea for the supply to dermatologists of meteorological information in order to help them to understand the fluctuations in the demand for their services. Everybody is aware of these fluctuations, and many of us are also familiar with the ups and downs in the day-to-day progress of our patients in the wards. Royal weddings, presidential elections, even sufficiently horrible murders or expensive explosions, and no doubt earthquakes may seem to make a consultation with the dermatologist, by comparison, so tame an affair as to be scarcely worth the effort; but they don't explain everything.

The authors strongly recommend the provision of air conditioning in the treatment of skin disease. They quote the case of an old gentleman who, desiring merely to part with his prostate, had, while waiting for the operation, been washed by the nursing staff into a state of exfoliative erythrodermia and then made a good deal worse by means of lotion and ointment. Relief prompt and complete came only after a liberal use of the steam kettle.

It is shown, by means of tables, how the effects of washing the skin are greatly aggravated by the efficient warming and ventilation with fresh dry air that is found in really efficient hospitals.

Powder lotion and ointment doubtless represent for many of us the smooth side of the dust liquid and vapour racket. But the reluctant engineer has been quicker in seeing the doctrinal significance of oil and dust than has the dermatologist in becoming alive to the therapeutic possibilities of water vapour—the only true skin food. This paper not only contains information and ideas of fundamental importance, but it can also be read with pleasure.

J. H. T. D.

EXPERIMENTAL HISTAMINE PRURITUS. I. INFLUENCE OF PHYSICAL AND PSYCHOLOGICAL FACTORS ON THRESHOLD REACTIVITY. F. E. CORMIA. (1952) *J. invest. Derm.*, 19, 21.

Intradermal injection of histamine is probably the best experimental method of producing pruritus; it is effective in 89% of subjects under 50 years old; and unless a wheal develops it can safely be inferred that there was no itching.

Histamine stimulates exclusively the fibres that conduct a diffuse sense of pain and which are believed to be the ones concerned in itching. The associated sensations of burning and pricking can be much diminished by buffering the saline diluent.

Dilutions varying from $1:10^3$ to $1:10^7$ were used in each test made for the purpose of assessing various threshold-lowering influences. Thresholds, though they vary from one subject to another, remained constant for the individual. They are unaffected by mecloyl and banthine.

The itch threshold is lowered (1) at night; (2) in the presence of itching from other causes, and to a greater degree in the skin involved than in non-involved whether or not the pruritus was associated with a visible lesion; (3) by psychic trauma—that is to say reminding the subject of humiliating reminiscences that had appeared in analysis. Unfortunately it was found possible only in one case to ascertain the effect of declaring the material of such a disclosure to be of universal experience and even praiseworthy, etc., but in that one case the threshold was fully restored.

Those of our colleagues who may possibly have heard the voice out of the whirlwind but have failed to notice Behemoth, have still to be convinced of the importance of psychological mechanisms in the pathogenesis and treatment of skin disease. This impressive and ingenious piece of work adds substantially to our resources for providing them with the sort of proof one would expect them to demand.

J. H. T. D.

AN EXPERIMENTAL APPROACH TO PSYCHOCUTANEOUS PROBLEMS. II. SIMULTANEOUS RECORDING OF PSYCHOTHERAPEUTIC INTERVIEWS AND GALVANIC SKIN RESPONSE. P. F. D. SEITZ and R. E. SHIPLEY. (1952) *J. invest. Derm.*, **19**, 49.

There has always been the danger that a stalemate in the struggle between the conflicting interests of dust and liquids and powder and lotion would allow some of the energy liberated to transfer itself to the therapeutic ideomachy in which the traditional ceremonies of washing and anointing compete with the uncomfortable words of the psychotherapist.

Now everyone has heard of the lie detector, and you don't need to commit an indictable offence to acquire a guilty conscience. Just as honest work brings oil to the palm and sweat to the brow, so the awkward question brings oil to the brow and sweat to the palm; and until the subject has become inured to the indelicate probings of the psychiatrist, his thoughts can be read with a galvanometer.

On which side we fight depends more on feeling than on reason; and scientific demonstration of common experience is not going to get us much further. The State creates the invalids, subsidizes them and supplies a sufficient cascade of healing draughts. Surely we should not demand material proofs to convince us that the State must be wrong, and that we should keep our clients well unpanpered and dry.

J. H. T. D.

LIPOPROTEINS AND XANTHOMATOUS DISEASES. J. MCGINLEY, H. JONES and J. FOGMAN. (1952) *J. invest. Derm.*, **19**, 71.

Most of the blood lipoids exist in combination with protein in molecules which vary in size and mass. When serum adjusted to a standard density is centrifuged these lipoprotein molecules sort themselves out and their quantities can be inferred from optical examination of boundaries. They are identified by their mobilities which are expressed in the Svedberg unit (10^{-13} cm./sec./dyne/g.).

Normally there should not be more than about 50 mg.% of the lighter molecules, but in primary xanthoma tuberosum, especially when complicated by cardiovascular disease, the figure may go up to 250 or even as high as 1200 mg.%. This figure does not correspond in any way with the blood cholesterol titre.

J. H. T. D.

THE PROTEINS IN PEMPHIGUS VULGARIS. IV. DETERMINATION OF THE PLASMA PROTEIN BY ELECTROPHORESIS AND CHEMICAL FRACTIONATION IN PATIENTS WITH PEMPHIGUS UNDER TREATMENT WITH ACTH OR CORTISONE. W. F. LEVER, N. A. HURLEY and A. E. BLANEY. (1952) *J. invest. Derm.*, **19**, 5b.

In pemphigus the serum albumin is characteristically reduced and the globulins, especially α -1 and α -2, greatly increased. Chemical fractionation shows that the increase in α -globulin is partly due to the glycoprotein.

When the disease is treated with ACTH these values, especially that of the serum albumin, tend to return to normal but without any very close relation to the success of the treatment.

β_2 globulin (fibrinogen) and γ globulin are also decreased but α_1 lipoprotein, unaltered by the disease itself, is increased by treatment with the hormone.

In assessing the condition of the patient the state of the skin and the general condition were both taken into consideration, but without any attempt at precision. The sedimentation rate varies with little regard either to the clinical state or to the findings of serum protein analysis.

Now the assessment of the clinical state in pemphigus is very difficult. This is partly because so many rapid changes are going on at the same time; the number of incipient bullae, the degree and extent of epidermolysis, the total area of erosion, the rate of healing of erosions, elevation of temperature, loss of weight, etc. All this, together with the difficulty that most patients with pemphigus have in assessing their subjective condition—which doesn't always correspond with the cutaneous—makes it all the more disappointing that no greater reliance can be put in these findings in the evaluation of what is unfortunately only a palliative and at the same time an extremely expensive therapy.

J. H. T. D.

THE INSECT BITE REACTION. II. EVALUATION OF THE ALLERGIC REACTION. E. M.

ROCKWELL and P. JOHNSON. (1952) *J. invest. Derm.*, **19**, 137.

Mosquitoes it seems have *probosci*, *thoraces* and *abdomens*. Come! come! Only officers' abdomens: and don't we know that in a scientific communication all correct mosquito should have proboscides abdomina, etc. etc.

"Exposure to the injection or deposition of foreign material by insects in the act of feeding is a common experience. That the substance injected may be a primary irritant is exemplified by the pain and reaction that follows the first sting of bees or wasps." There's a heliphant in the garden mum? . . . Or perhaps we are after all only discussing the exercise-provoking function of the wasp at a picnic.

The toxic effect of ground-up whole mosquitoes was compared with that of bee venom on a tissue-culture of embryonic chicken heart. "The results parallel the clinical observation that bee stings are more toxic than mosquito bites." An extract of "dust" is mentioned, the particular kind of dust not being disclosed. We wonder if we have met this dust before. Can it be one of the happy trio?

J. H. T. D.

THE SKIN OF HAIRLESS MICE. I. THE FORMATION OF CYSTS AND THE DISTRIBUTION

OF LIPIDS. W. MONTAGNA, H. B. CHASE and H. P. MELARAGNO. (1952) *J. invest. Derm.*, **19**, 83.

In this malformation the hair-follicle undergoes fragmentation during the moult after the first pelage. The isolated disorientated fragments pursue their evolution in the direction of sebaceous gland parenchyma which presently forms cysts. This process together with the chemistry of the lipids concerned is the subject of this clear and readable account. The paper is illustrated with some unnecessary and completely unhelpful microphotographs. While it is possible that microphotographs may more or less faithfully reproduce what is visible in a very limited field of the section, they can tell us little about the context and still less of what was in the mind of the observer.

J. H. T. D.

EXPERIMENTS ON THE CHOLINE CONTENT OF THE SKIN AND SEBUM. B. OTTENSTEIN,

N. BOUCODDO, A. WALKER and F. M. THURMON. (1952) *J. invest. Derm.*, **19**, 105.

It is just as reprehensible in scientific writing to refer, without explanation, to matters unlikely to be familiar to those to whom the communication is addressed, as it is to confuse them by the careless use of words. Moreover the Editor has a duty to protect his subscribers. Snider, Gottschalk and Rothman (1949, *J. invest. Derm.*, **13**, 323—reference incorrectly given here!) estimated choline by means of a microbe unable to grow without it. Here the choline is estimated by a chemical method, viz., precipitation as the eneioidide (? eneioidide) or as the reinekate (whatever that may be). It seems that the work was undertaken "with the purpose of getting data on the specific effects of "Amberlites" in various dermatological conditions." They would at any rate be a nice change from *rep. ambo*.

J. H. T. D.

THE EFFECT OF INTRADERMAL INJECTION OF ADRENOCORTICAL HORMONES. F. R.

BENJAMIN, T. CORNBLEET and M. I. GROSSMAN. (1952) *J. invest. Derm.*, **19**, 109.

Their effect on the reactions of the skin to stimulation by heat at 43° C., histamine, adrenalin and acetyl-choline; on the healing of the lesion produced by the application of heat at 53.4° C. to an area 5 mm. in diameter for 1 minute, both when the hormones were injected before the injury

and after it ; and on the spreading of dyes injected with or without spreading agents. All these matters are here studied in a series of model experiments and the important findings clearly set out.

J. H. T. D.

STUDIES ON THE CAUSATIVE ORGANISM OF TRICHOMYCOSIS AXILLARIS. J. T. CRISSEY, G. C. REBELL and J. J. LASKAS. (1952) *J. invest. Derm.*, **19**, 189.

One cannot help marvelling that the investigation of such a familiar and distinctive object as the concretion that surrounds the axillary hair shaft in the great majority of British males should have provided such a diversity of findings.

At Philadelphia in the summer of 1950 a diphtheroid was isolated from 23 clinically positive plus 5 microscopically positive, plus 3 apparently normal axillae—31 in all—out of the 100 examined.

The name *Corynebacterium tenuis* is proposed for this organism, of which a full account is given here. It is penicillin-sensitive, so here is a disposal for those old pots of penicillin cream.

J. H. T. D.

LEUKOPENIA, A COMPLICATION OF CHLOROMYCETIN THERAPY OF CHRONIC DISCOID LUPUS ERYTHEMATOSUS. H. M. ROBINSON, I. ZELIGMAN, A. SHAPIRO and M. COHEN. (1952) *J. invest. Derm.*, **19**, 199.

No less than 500 patients with various dermatoses have been given chloromycetin by these authors simply on the off-chance of finding something it could reasonably be prescribed for.

Blood counts were done in only 86 of them, but among these were 7 women with discoid L.E., 4 of whom developed blood changes during the period of observation. The drug isn't any use as a remedy either.

It is true that in the U.K. patients, no matter what is or is not wrong with them, are very often treated with the latest antibiotic either because having been compulsorily educated they read the advertisement and demand it or because their doctor or his favourite consultant are true believers. But is there any excuse for a dermatologist, who previously has had some opportunity of observing the natural course of disease and most of the vagaries of patients, supposing that the therapeutic millenium will be found in a bottle of pills?

J. H. T. D.

THE LATE THERAPEUTIC RESULTS PRODUCED BY LOW VOLTAGE ROENTGEN RAYS AND OTHER FORMS OF THERAPY IN CERTAIN BENIGN CHRONIC SKIN DISEASES.

R. L. BAER, A. BOROTA and M. B. SULZBERGER. (1952) *J. invest. Derm.*, **19**, 325.

In the U.K. we know only too well the danger of attacks on the dermatologists' use of x-rays and radium by the "so-called cancer experts"; and any work tending to show that it is the dermatologist, and not the votary of some purely therapeutic cult, who should be entrusted with the treatment of skin diseases is doubly welcome at a time when medicine has fallen into the hands of the politicians, for whom therapeutics can, for administrative reasons, be tolerated only in the standardized form of some notional reaction between a poison and its antidote.

The authors, however, have set out, not only to prove that x-ray does not increase the scarring in acne, and that, given a total dosage of 1000 r divided into exposures of 85 r or less, it is harmless—conclusions which nobody would cavil at—but also that it gives results of permanent value to the patient.

The figures given here, according to χ^2 and all that, are "very significant." That is to say they would have been, if there had been any kind of random selection (e.g., according to the initial of the patient's name) of those receiving x-ray treatment plus ordinary remedies for comparison with those treated with ordinary remedies alone, and if all the patients had been accounted for. But the figures relate only to the 2907 patients who responded to the follow-up; and nothing whatever is said about those who, having been treated from 5 to 23 years previously, did not. Communication with many of these is, of course, in spite of the best medical care, now only possible by planchette.

And again there is nothing said about duration of treatment or the number of visits. If patients had to rely solely on the intrinsic value of the remedies provided by the pharmacist there wouldn't be many doctors left to prescribe them. A consultation with Dr. Sulzberger must in itself be a healing experience; and the effect of $11.72 \left(\frac{1000}{85} \right)$ such contacts cannot be ignored. Moreover, is it not probable that the patient who takes the trouble to attend the clinic a dozen times is not only more suggestible, but also more likely to accept an invitation to

return and relate his experience, than the one who thinks himself lucky to get away with nothing worse than a bottle of lotion—and then promptly gets better.

Then how would the cases (as opposed to the patients) be selected? One can imagine a severe case of psoriasis being much too extensive for x-ray treatment to be practicable; and one can also imagine that a solitary patch of lichen Vidal would be much more likely to receive a dose of x-rays, plus perhaps a coat of tar paint and an occlusive dressing with a piece of aluminium foil inside it to keep the nails away, than a severe and extensive case of Besnier's prurigo. On the other hand, of course, it is possible that resort might be had to x-rays only in cases that appeared to resist other remedies, that is to say recalcitrant cases; though there are of course quite a few clinicians who restrict x-ray therapy to its proper field of shortening the duration of conditions considered to be self-limiting.

That the psoriasis in 3 out of the 22 cases "cured" had in fact reappeared in fresh sites is no proof, in the reviewer's opinion, that the treatment had rendered the original areas immune to the disease. There are too many cases of x-ray burn plus psoriasis over the sacrum to let us believe that; and moreover it is not uncommon, especially in women in the sixth decade, for psoriasis to abandon its lifelong sites on knees and elbows and to become thereafter exclusively flexural.

In nonspecific disease, which may spontaneously recover or fail to produce irreversible changes, there are so many extrinsic factors to be considered that we must be chary of retrospective analysis. But to yield valid results an *ad hoc* experiment would have to be even more strictly conducted. Not even the individual who initially examines the patient, whether he is in clinical charge of the case or not, should know whether the patient is going to have the special form of treatment or the ordinary, and of course they should be indistinguishable by the patient. J. H. T. D.

PHYSIOLOGY OF THE GLANDS OF THE HUMAN EAR CANAL: PRELIMINARY REPORT.

W. C. LOBITZ and C. J. CAMPBELL. (1952) *J. invest. Derm.*, 19, 125.

"A normal resting white male was startled by the unexpected noise from the shot of a gun. The immediate response was a gasp followed by a short period of apnoea. 2.8 seconds later the skin impedance began to fall and reached its maximum change of 15,000 ohms in 7.6 seconds. 4.4 seconds after the noise the heart rate began to increase. There was no change in the skin impedance of the ear canal (10,000)." This is because there are no sweat glands in the external auditory meatus. Visual inspection of the meatus during the adventure described above revealed clear drops of secretion at the orifices of the apocrine (ceruminous) glands. But this phenomenon is only conspicuous in persons subject to otitis externa. For otitis externa is now believed by the otologists, who have always had some difficulty in curing it, to be a neurotic phenomenon; and the present work is relevant to this hypothesis.

A most impressive battery of apparatus, electroencephalograph, electrocardiograph, pneumograph, impedance bridges conveniently recording in ohms, and a lot more besides is earmarked, and all ready for the next audition of this earnest though somewhat otiose oreilization of the physiology of this unacoustically neglected area of the human exterior. J. H. T. D.

HISTOPATHOLOGY OF NAIL DISEASES. C. J. WHITE and T. C. LAIPPLY. (1952) *J. invest. Derm.*, 19, 900.

It isn't too clear what the authors mean by "biopsy specimen" of nail. The mention of "clippings" is reassuring, and the subungual keratosis must surely be no more than the shaggy under-surface of a certain kind of imperfectly adherent nail-plate. It is true that the nails were embedded in paraffin and cut with the microtome and not merely dissociated in potash: moreover the examination did not necessitate the death of the subject. But surely the term "biopsy" must be reserved for the more heroic operation! Attention is drawn to the important matter of the prognosis and treatment of onychomycosis. *T. violaceum* attacks only the surface and can possibly be scraped off with a piece of broken glass, but *T. purpureum* (*rubrum*) invades the deep layers of the nail-plate, so nothing short of avulsion can cure. Information of this kind would be valuable, for the individual dermatologist rarely has enough first-hand experience.

J. H. T. D.

A LOCAL DEFECT IN THE METABOLISM OF PYRIDOXINE IN THE SKIN OF PERSONS WITH SEBORRHOEIC DERMATITIS OF THE "SICCA" TYPE. A. W. SCHREINER, E. ROCKWELL and R. W. VILTER. (1952) *J. invest. Derm.*, 19, 95.

While the pyridoxin-antagonist desoxypyridoxine will, with or without a diet poor in vitamins, induce an artificial seborrhoea sicca, which is in turn cleared by local parenteral or ingested

pyridoxine, even very large doses of pyridoxin have no good effect on spontaneous seborrhoea. But a 1% pyridoxine ointment healed 22 of 25 patients with scaly seborrhoea. Unfortunately it was only "whenever possible" that the effect of pyridoxine ointment was compared with the base alone; but it can be inferred that in at least one case the base alone proved inferior.

J. H. T. D.

INEFFECTIVENESS OF LOCAL APPLICATIONS OF ADRENOCORTICAL STEROIDS IN PREVENTING EFFECTS OF ULTRAVIOLET RAYS ON HUMAN SKIN. J. EVERALL and L. FISHER. (1952) *J. invest. Derm.*, 19, 97.

Cortisone is inactive, both as a prophylactic inunction and as a light filter, against sunburn.

J. H. T. D.

THE EFFECT OF TOPICALLY APPLIED COMPOUND F IN SELECTED DERMATOSES. M. B. SULZBERGER and V. H. WITTEN. (1952) *J. invest. Derm.*, 19, 101.

They don't say whether or not the subjects knew which ointment contained the compound F and which was the dummy, or even if they knew that they were having some special remedy applied. But since they were patients "selected from private practice" they could hardly have been the voiceless scaly fish we prefer for our experiments.

J. H. T. D.

A MODIFIED VAN TIEGHEM MOUNT. R. A. VOGEL. (1952). *J. invest. Derm.*, 19, 103.

You can watch the fungus growing in a blob of medium on the undersurface of a coverslip kept moist by its forming the lid of a tiny glass of water.

J. H. T. D.

THE ACTION OF SABINE TINCTURE ON THE NORMAL SKIN OF THE RAT. H. J. S. CABALLERO. (1952) *J. invest. Derm.*, 19, 169.

Sabine has much the same action as podophyllin and colchicine.

J. H. T. D.

ARTANE IN THE TREATMENT OF SCLERODERMA. H. M. ROBINSON. (1952) *J. invest. Derm.*, 19, 171.

Artane, a drug used at the dose of 0.5 mg. per kilo in Parkinsonism, is capable of producing side reactions unpleasant though perhaps not dangerous; but "as it causes hyperglycaemia one should exclude diabetic patients, or those so inclined." In this series of cases a total dosage of between 2 and 8 mg. per day seems to have been enough to give a lot of symptomatic relief.

J. H. T. D.

PLENOSOL IN THE TREATMENT OF ITCHING DERMATOSES. H. STEINHOFF. (1953) *Derm. Wschr.*, 127, 586.

Plenosol, a preparation of mistletoe that inhibits the parasympathetic, has been found to be useful in itching dermatoses, particularly in lichen ruber planus. The author injects it intracutaneously on each side of the spine twice weekly, beginning with 0.2 c.c. of strength I (i.e., about 200 necrotizing units), but varying the dilution even 100-fold according to age, etc. (e.g., 10 times the dilution in a debilitated adult), and increasing the dose by 0.2 c.c. each injection. In lichen simplex chronicus he injects in or near the patch. In endogenous eczema (late exudative type of Rost) the effect is uniformly good. Of his 110 patients with itching dermatoses 94 were healed or improved, he does not say in what period of time, but apparently it was not unusual for the itching to abate after the third injection.

M. S. S.

SKIN TRANSPLANTS IN CHRONIC ULCUS CRURIS. H. DÖRING. (1952) *Derm. Wschr.*, 127, 596.

Of 24 ulcers of the leg resistant to conservative methods of treatment the author obtained excellent results in 19 by skin-grafts, the patients being able to do heavy work without the support of bandages. The calloused wall of the ulcer and all the surrounding atrophic and as a rule pigmented skin along with the underlying scar tissue even to the level of the periosteum, if necessary, should be radically excised. The patient is discharged as a rule 44 days after the operation, 21 of these having been devoted to after-treatment in the form of massage, etc. Before operation the ulcer is made as sterile as possible and every effort is made to improve the circulation, e.g., by treatment of the veins. The author reserves this method of treatment for intractable cases.

M. S. S.